

# *The* **American Fertilizer**

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JUNE 6, 1942

No. 12



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operating at capacity to provide  
supplies of these essential plant  
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in the national effort.

*Manufacturers of Three Elephant Borax and Boric Acid*

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... THE ...

# AMERICAN FERTILIZER

"That man is a benefactor to his race who makes two blades of grass to grow where but one grew before."

Vol. 96

JUNE 6, 1942

No. 12

## The National Fertilizer Association Convention

**The Eighteenth Annual Meeting to be Held at Hot Springs, Va. War Program  
Arranged. Usual Golf Events Scheduled. Directors  
and Officers to be Elected.**

**T**HE Eighteenth Annual Convention of the National Fertilizer Association will be held at the Homestead, Hot Springs, Va., on June 18th, 19th and 20th. The program for the open sessions on June 19th and 20th has been built around the war emergency, and the addresses will deal with the problems of agriculture and the fertilizer industry, as they are affected by war conditions.

The speakers scheduled for the opening session on Friday, June 19th, include John A. Miller, President of the N. F. A.; Dr. Clarence Poe, Editor of "The Progressive Farmer," Raleigh, N. C.; T. E. Milliman and Dr. W. H. Martin, of the War Production Board; and Charles J. Brand, Executive Secretary and Treasurer of the N. F. A. In addition the budget for the following year will be presented and the nominating committee will present the names of four nominees for the four positions of Director-at-Large to be filled at this Convention.

The second open season on Saturday, June 20th, will hear addresses by Robert M. Salter, Chief of the U. S. Bureau of Plant Industry; Dr. Dexter M. Keezer, Deputy Administrator, OPA; Howard R. Tolley, Assistant Administrator and Director of Food and Apparel Division, OPA; and Edward J. Buhner, of the Office of Defense Transportation. The memorial record of those who have died since the last annual convention will be presented by T. F. Bridgers.

The annual dinner of the Association will be held on Friday evening, June 19th. President

John A. Miller will preside and the guest of honor will be Dr. Edward C. Elliott, president of Purdue University who will speak on the subject "The American Way and the American Waywardness."

### 12 Directors to be Elected

The terms of 12 Directors of the Association expire this year. Four of these are directors-at-large: John A. Miller, Price Chemical Co.; Henry S. Parsons, Naco Fertilizer Co.; L. W. Rowell, Swift & Co. Fertilizer Works; W. T. Wright, F. S. Royster Guano Co. These positions will be filled by vote of those attending the convention.

In addition, eight District Members of the Board will be elected by the members in their respective districts. In some Districts elections are being held in advance of the convention; in others the choice will be made during the convention sessions. The directors whose terms expire are: District 1, A. F. Kingsbury, The Rogers & Hubbard Co.; District 4, Lionel Weil, Weil's Fertilizer Works; District 5, George W. Gage, Anderson Fertilizer Co.; District 7, A. H. Case, U. S. Phosphoric Products Div., Tennessee Corp.; District 8, J. W. Dean, Knoxville Fertilizer Co.; District 10, W. B. Norris, The Norris Fertilizer Co. In District 10, a member will be elected to fill the position of P. H. Manire, deceased. In District 2, a member will be elected to replace George Cushman, who is now with the Fertilizer and Insecticide Branch of OPA.

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## Officers of The National Fertilizer Association



JOHN A. MILLER  
President



A. LYNN IVEY  
Vice-President



CHARLES J. BRAND  
Executive Secretary and Treasurer

## **Eighteenth Annual Convention of THE NATIONAL FERTILIZER ASSOCIATION**

### **FIRST GENERAL SESSION**

**Friday, June 19th, 10 A. M.**

President JOHN A. MILLER in the Chair

*Song:* "America."

*Invocation:*

*Annual Convention Address:* John A. Miller, President, Price Chemical Company, Louisville, Ky., and President, The National Fertilizer Association.

*Address:* "The Fertilizer Man: His Duties and Opportunities in Relation to Southern Agricultural Progress," Dr. Clarence Poe, President and Editor, The Progressive Farmer, Raleigh, N. C.

*Address:* "Government-Fertilizer Industry Hitch-Up," T. E. Milliman, Chief, Agricultural Chemicals Section, and Dr. W. H. Martin, Consultant, War Production Board, Washington, D. C.

*Address:* "Your Association: A Brief Report," Charles J. Brand, Executive Secretary and Treasurer, The National Fertilizer Association, Washington, D. C.

*Submittal of the Budget:* John A. Miller, Chairman, Budget Committee.

*Report of Nominating Committee:* H. B. Baylor, Vice-President, International Minerals & Chemical Corp., Chicago, Ill., Chairman, Nominating Committee. (Four members of the Board of Directors-at-Large are to be elected for the regular three-year term. If there are nominations from the floor, the ballot box will be open at convention headquarters from 12 noon to 5 P. M. In addition, the names of the Directors nominated from the Districts will be submitted for election.)

**Friday Evening, June 19th, 8 P. M.**

*Fifteenth Annual Dinner of the Association:* President John A. Miller presiding.

*Address:* "The American Way and the American Waywardness," Dr. Edward C. Elliott, President, Purdue University, Lafayette, Ind.

### **SECOND GENERAL SESSION**

**Saturday, June 20th, 10 A. M.**

President JOHN A. MILLER in the Chair

*Address:* "Practical Agronomy in War Time," Robert M. Salter, Chief, Bureau of Plant Industry, U. S. Department of Agriculture, Washington, D. C.

*Address:* "The Farmer's Stake in the OPA Program," Dr. Dexter M. Keezer, Deputy Administrator, Office of Price Administration, Washington, D. C.

*Address:* "The Agricultural Goals—Our Means of Reaching Them," Howard R. Tolley, Assistant Administrator and Director of Food and Apparel Division, Office of Price Administration, Washington, D. C.

*Address:* "Truck Transportation in the War Emergency," Edward J. Buhner, Chief, Operations, Property Carriers, Office of Defense Transportation, Washington, D. C.

*Unfinished Business.*

*New Business.*

*Memorial Record:* T. F. Bridgers, Farmers Cotton Oil Co., Wilson, N. C.

*Adjournment.*

## Fertilizer, Insecticide and Fungicide Shortage Hampers Many European Farmers

**S**HORTAGES of fertilizers, insecticides are troubling farmers in a number of European countries this year in addition to the late spring and seed shortages, the Department of Agriculture said today. Late reports indicate many chemical supplies are becoming so scarce that desperate measures are being taken to maintain crop yields and to prevent losses from plant diseases and insect pests.

### Northern and Central Europe

In Germany limited phosphate imports from Africa and increased industrial requirements again made it necessary "to maintain the superphosphate quota this year at only 33 per cent of the 1938-39 consumption," it is reported. Nitrogen quotas were maintained at 76 per cent of the 1938-39 level, and potash quotas at 100 per cent. The 1938-39 consumption of all artificial fertilizers in Germany was high.

Indications are that "only a part of the fertilizer requirements this year could be delivered to farmers before the planting season." As a result, many German farmers were forced "to abandon their customary fertilizing program" and to apply available supplies to "selected crops." The use of fertilizers was "particularly restricted in sugar beet areas," it was reported. There is no information on the German insecticides and fungicides supply situation except that the quantities available are rationed.

Sweden reports the fertilizer situation there is "strained." "Arsenic insecticides are plentiful but that the supply of nicotine was sufficient for only two-thirds of the needs." Also, "the available supply of copper sulphate permitted treatment of only 10 per cent of the potato acreage against plant mold."

In Norway the superphosphate supply is "extremely small." The potash fertilizer supply from Germany was said to be normal with a 25 per cent shortage in saltpeter "because of the necessity of exporting large quantities to neighboring countries." The Norwegian press indicated the department of agriculture was planning extensive production of tobacco to obtain nicotine for spraying purposes.

In Switzerland factories last winter had to "reduce their output of nitrogen and phosphoric acid because of a shortage of electricity." Subsequent reports indicated, however, that "present requirements of nitrogen and potash could be met since moderate residues remained in the soil." On the other hand, supplies of superphosphates were "extremely deficient due to the difficulty of importing phosphates from North Africa and sulphur from Italy." Supplies of insecticides and fungicides are "limited by a shortage of copper." Requirements of copper for that purpose in 1942 were estimated at 1,500 tons but only 690 tons were allotted for all agricultural requirements.

Reports from Slovakia indicate that, while "governmental subsidies were granted for the purchase of fertilizers, only 220 tons of unspecified materials had been delivered by April."

### Mediterranean Basin Countries

In France the general shortage of fertilizers is reported as "causing considerable difficulty." Phosphoric acid is "especially scarce" due to reduced phosphate imports from North Africa. Supplies of sulphuric acid are reported as "extremely deficient," and potash supplies from Alsace as "far below normal." Compared with normal requirements available, fertilizer supplies were estimated at "50 per cent for potash, 33 per cent for phosphates, and 33 per cent for nitrates."

With respect to insecticides and fungicides it is reported that supplies in 1941 were only sufficient to meet "half the requirements." In April 1942 "only 40,000 tons of copper sulphate were available to meet requirements of 100,000 tons." Reports at hand indicate that "copper waste and even copper utensils are being requisitioned in part for the manufacture of copper sulphate, of which large quantities are needed, especially in the grape industry."

The fertilizer supply was short in Italy also. Not only are "fertilizers rationed" but no allotments were made "for sugar beets, chicory, and

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## Preference Orders Issued on Sulphate of Ammonia, Synthetic Ammonia and Cyanamid.

ON May 30th, the War Production Board issued General Preference Orders M-163, M-164, and M-165, covering the sales of sulphate of ammonia and by-product ammonia, synthetic ammonia, and cyanamid, respectively. Under these orders, each producer of the above materials will file with the Chemicals Branch of WPB, on the 10th of each month, a schedule of deliveries which the producer proposes to make in the succeeding month. The Director of Industry Operations will then issue specific instructions to the producer as to what deliveries will be authorized for that month and the producer is to notify each customer as to the extent to which this authorization will affect deliveries to that particular customer.

If the Director of Industry Operations does not send such notification to the producer prior to the beginning of the succeeding month, the producer is authorized to make the shipments according to the schedule he had already filed.

In the event of any change in the schedule, due to cancellation by a customer or otherwise, the Chemicals Branch of WPB must be notified and the amount which is unable to be delivered must not be resold unless specifically authorized.

The text of Preference Order M-163, covering by-product ammonia and sulphate of ammonia is given below. Order M-164, covering synthetic ammonia, and Order M-165, covering cyanamid, are practically identical in wording, except for the name of the product covered by the particular order.

### Part 1263—By-Product Ammonia and Sulphate of Ammonia (General Preference Order M-163)

The fulfillment of requirements for the defense of the United States has created a shortage in the supply of by-product ammonia and sulphate of ammonia for defense, for private account and for export; and the following order is deemed necessary and appropriate in the public interest and to promote the national defense:

#### § 1263.1 General Preference Order M-163

—(a) *Definitions.* (1) "By-product ammonia" means any ammonia obtained from the distillation of organic materials and all salts produced therefrom, and includes all solutions of by-product ammonia in water, as well as anhydrous ammonia produced from such solutions.

(2) "Sulphate of ammonia" means the commercial material of that name, whether obtained as a by-product or otherwise, containing 20.5% nitrogen or less, but does not include mixtures of sulphate of ammonia with other fertilizer materials.

(3) "Producer" means any person engaged in the production of by-product ammonia or sulphate of ammonia and includes any person who has by-product ammonia or sulphate of ammonia produced for him pursuant to toll agreement.

(4) "Distributor" means any person who, for his own account or as agent or broker for any producer, sells by-product ammonia or sulphate of ammonia in any form. The term does not include any fertilizer manufacturer nor any agent of any fertilizer manufacturer, nor any person who purchases for sale at retail.

(5) "Fertilizer manufacturer" means any manufacturer of superphosphate or any person who purchases fertilizer materials for the purpose of manufacturing and selling commercial mixed fertilizers containing nitrogen, phosphorus and potassium or any or all of them in any proportions.

(b) *Restrictions on deliveries.* (1) On and after June 1, 1942, no producer or distributor shall make delivery of by-product ammonia or sulphate of ammonia to any person unless and until he shall have been authorized or directed to do so by the Director of Industry Operations. During June, 1942 and prior to the beginning of each calendar month beginning with July, 1942 the Director of Industry Operations will issue to all producers and distributors specific authorizations or directions covering deliveries of by-product ammonia and sulphate

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## Fertilizer Consumption in 1941

**A** NEW high point was reached in 1941 in the amount of commercial fertilizer used by American farmers.

Distribution by commercial producers, according to the annual summary prepared by The National Fertilizer Association, amounted to 8,400,000 tons representing an increase of 7 per cent over 1940. The previous peak in commercial sales was in 1930, when they totaled 8,222,000 tons. This figure was nearly reached in 1937, with sales amounting to 8,200,000 tons.

While the quantity distributed by the fertilizer industry in 1941 was only moderately above the 1937 tonnage, total fertilizer consumption was 1,018,000 tons greater last year than it was in 1937. This was due in large part to the sharp increase in the amount of fertilizer distributed by Government agencies, which increased from 47,000 tons in 1937 to 852,000 tons in 1941. The proportion of total tonnage accounted for by the activities of TVA and AAA has been rising steadily, amounting to 9.2 per cent in 1941.

Government distribution in New England accounted for 1.4 per cent of total consumption in 1941. In the South Central group of States the ratio was 3.7 per cent.

In only a few States were sales by commercial producers smaller in 1941 than in 1940. Three such States were Vermont, Kentucky, and Tennessee; in all three, substantial quantities of superphosphate were distributed by Government agencies and the amounts so distributed were much larger than in 1940.

The data on consumption do not include the tonnage of phosphate rock used in Illinois, which amounted to 68,290 tons in 1941 and to 47,823 tons in 1940. Neither do the data include the fertilizers produced in this country and shipped to our island possessions. The amount of such shipments in 1941 is not known, due to the Government policy of not disclosing foreign trade information. In 1940 we shipped 153,500 short tons of fertilizers to Puerto Rico and 63,450 short tons to Hawaii.

Fertilizer consumption has been relatively higher in recent years than has the amount of money expended by farmers for fertilizer. Expenditures have been somewhat lower relatively than has farm income. The reason for the difference in the levels of tonnage and ex-

penditures, of course, is a lower price level. Beginning in 1932, the price paid by farmers for fertilizer has been at about the average paid in 1910-1914.

According to the U. S. Department of Agriculture, there has been a moderate rise in the price of fertilizer in the last year, with the index going from 96 in the spring of 1941 to 111 in the spring of 1942. This represents an increase of less than 16 per cent. During this same period the average of prices paid for all commodities increased by 19 per cent while prices received by farmers rose by 42 per cent.

As of Mid-April, farm product prices were at 99 per cent of parity. If other commodities bought by farmers had been selling as low as was fertilizer, farm product prices would have been at 135 per cent of parity.

For several years the market for fertilizer has been widening and becoming more diversified. That trend continued in 1941. Commercial sales last year were 191,000 tons greater than in 1930. The amount of fertilizer used on cotton was 647,000 tons less, so the amount used on crops other than cotton (sold by commercial producers) was 838,000 tons greater in 1941 than in 1930. There has been a particularly sharp increase in the use of fertilizer on grasslands, reflecting the educational activities of the industry and of Government agencies. There has also been a substantial increase in the amount used on fruits and vegetables.

Paralleling the increasing diversification in the fertilizer market by crops fertilized has been an increasing geographical diversification. As the importance of cotton as a fertilizer-using crop has declined, so has the importance of the South as a fertilizer using area declined. In 1930, the South Atlantic and South Central States combined accounted for 72 per cent of total tonnage. In 1941 their proportion of the total was down to 68 per cent. During that same period the ratio of consumption in the middle Atlantic States to total national consumption increased from 10 per cent to 11 per cent, the proportion of the North Central States rose from 11 per cent to 13 per cent, and the proportion accounted for by the Western States went from 2 per cent to 4 per cent.

The center of fertilizer consumption has been moving to the North and to the West. It

(Continued on page 22)

## FERTILIZER CONSUMPTION IN THE UNITED STATES

Based on Tax Tag Sales, Records of Government Officials, or Estimates.

State	1937	Sold by Commercial Producers 1938	1939	1940	1941	Government Distribution 1941	Total Consumption 1941
Maine .....	150,000	147,000	144,000	147,000	152,000	21,618	173,618
New Hampshire .....	14,000	12,500	10,000	12,500	12,500	17,777	30,277
Vermont .....	25,260	20,067	12,664	14,585	12,545	62,495	75,040
Massachusetts .....	74,274	69,175	63,974	64,998	66,239	13,683	79,922
Rhode Island .....	11,000	12,200	11,000	12,500	12,500	2,090	14,590
Connecticut .....	67,441	56,274	59,000	61,753	61,597	8,418	70,015
<b>New England</b> .....	<b>341,975</b>	<b>317,216</b>	<b>300,638</b>	<b>313,336</b>	<b>317,381</b>	<b>126,081</b>	<b>443,462</b>
New York .....	350,000	332,881	318,992	369,911	379,819	89,879	469,698
New Jersey .....	183,952	171,722	176,170	183,567	184,191	0	184,191
Pennsylvania .....	370,162	358,415	357,415	359,037	370,000	16,390	386,390
<b>Middle Atlantic</b> .....	<b>904,114</b>	<b>863,018</b>	<b>852,577</b>	<b>912,515</b>	<b>934,010</b>	<b>106,269</b>	<b>1,040,279</b>
Ohio .....	362,205	324,228	345,585	363,320	392,677	17,291	409,968
Indiana .....	226,887	220,967	201,420	255,059	273,386	7,956	281,342
Illinois .....	36,076	36,132	40,673	49,753	60,878	9,161	70,039
Michigan .....	144,500	132,702	144,811	166,564	168,987	21,038	190,025
Wisconsin .....	42,872	46,433	42,623	64,253	84,120	15,870	99,990
<b>East North Central</b> .....	<b>812,540</b>	<b>760,462</b>	<b>775,112</b>	<b>898,949</b>	<b>980,048</b>	<b>71,316</b>	<b>1,051,364</b>
Minnesota .....	12,386	13,778	13,455	18,627	21,251	11,207	32,458
Iowa .....	8,523	11,146	13,018	13,745	17,361	5,719	23,080
Missouri .....	82,498	70,301	67,733	87,577	86,964	9,636	96,600
North Dakota .....	600	1,000	1,500	1,800	2,100	0	2,100
South Dakota .....	150	150	300	500	500	0	500
Nebraska .....	500	1,794	2,090	2,200	1,800	0	1,800
Kansas .....	15,267	18,099	14,366	17,931	19,186	3,199	22,385
<b>West North Central</b> .....	<b>119,924</b>	<b>116,268</b>	<b>112,462</b>	<b>142,380</b>	<b>149,162</b>	<b>29,761</b>	<b>178,923</b>
Delaware .....	44,466	36,281	35,500	35,500	34,500	29	34,529
Maryland .....	186,285	166,408	165,342	160,315	171,941	1,264	173,205
District of Columbia .....	1,600	1,700	1,800	1,800	2,000	0	2,000
Virginia .....	440,430	405,179	418,089	393,069	399,377	58,882	458,259
West Virginia .....	53,000	48,500	51,500	52,600	56,000	32,677	88,677
North Carolina .....	1,236,564	1,104,788	1,215,887	1,076,730	1,150,343	25,557	1,175,900
South Carolina .....	771,198	660,963	678,859	685,310	729,447	5,231	734,678
Georgia .....	866,360	768,323	689,790	762,725	806,326	27,450	833,776
Florida .....	579,399	555,475	556,782	568,671	654,664	701	655,365
<b>South Atlantic</b> .....	<b>4,179,302</b>	<b>3,747,617</b>	<b>3,813,549</b>	<b>3,736,720</b>	<b>4,004,598</b>	<b>151,791</b>	<b>4,156,389</b>
Kentucky .....	117,078	109,968	120,009	123,102	121,976	178,863	300,839
Tennessee .....	141,325	128,291	130,354	147,311	141,461	94,209	235,670
Alabama .....	629,260	528,850	562,100	575,900	581,500	33,757	615,257
Mississippi .....	325,320	325,836	318,761	319,508	368,667	8,344	377,011
Arkansas .....	68,675	67,800	74,122	101,000	123,975	17,111	141,086
Louisiana .....	157,318	148,542	160,488	156,775	182,010	4,279	186,289
Oklahoma .....	6,845	8,005	7,622	7,363	12,950	192	13,142
Texas .....	89,400	84,276	95,226	118,199	142,666	3,872	146,538
<b>South Central</b> .....	<b>1,535,221</b>	<b>1,401,568</b>	<b>1,468,682</b>	<b>1,549,158</b>	<b>1,675,205</b>	<b>340,627</b>	<b>2,015,832</b>
Montana .....	4,000	5,000	5,000	4,500	4,500	0	4,500
Idaho .....	4,417	9,015	6,500	7,000	7,000	1,758	8,758
Wyoming .....	1,400	1,500	2,100	2,100	1,700	0	1,700
Colorado .....	1,800	4,393	4,578	5,557	6,256	0	6,256
New Mexico .....	2,105	1,908	2,243	2,406	3,876	172	4,048
Arizona .....	10,500	6,500	7,000	6,902	9,787	790	10,577
Utah .....	2,300	2,300	2,600	3,050	2,800	3,200	6,000
Nevada .....	500	500	500	500	500	0	500
Washington .....	28,000	27,000	23,750	24,800	28,000	10,743	38,743
Oregon .....	19,000	17,500	17,500	19,500	23,000	8,937	31,937
California .....	232,795	208,353	218,523	216,990	265,043	204	265,247
<b>Western</b> .....	<b>306,817</b>	<b>283,969</b>	<b>290,294</b>	<b>293,305</b>	<b>352,462</b>	<b>25,804</b>	<b>378,266</b>
<b>United States</b> .....	<b>8,199,893</b>	<b>7,490,118</b>	<b>7,613,314</b>	<b>7,846,363</b>	<b>8,412,866</b>	<b>851,649</b>	<b>9,264,515</b>
Distributed by AAA...	25,081	66,946	156,949	444,321	823,598		
Distributed by TVA...	21,622	13,853	18,356	27,180	28,051		
<b>U. S. Total Consumption</b>	<b>8,246,596</b>	<b>7,570,917</b>	<b>7,788,619</b>	<b>8,317,070</b>	<b>9,264,515</b>		

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INDUSTRY AND ITS ALLIED INDUSTRIES

PIONEER JOURNAL OF THE FERTILIZER INDUSTRY

WARE BROS. COMPANY

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A. A. WARE, EDITOR

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## Potash Prices Issued

Potash Company of America

On May 29th the Potash Company of America published its schedule of prices for the coming fertilizer year. There was no change in the ex-vessel price of muriate of potash, the 60 per cent  $K_2O$  grade remaining at 53½ cents per unit  $K_2O$ , in bulk. The 50 per cent grade is not quoted this year while manure salts are quoted only f.o.b. Carlsbad, New Mexico, at 21 cents per unit for the 25 per cent grade.

At the buyer's option, muriate of potash may be purchased f.o.b. Carlsbad at 11.2 cents less per unit  $K_2O$ , making a reduction of about \$7.00 per ton from the price ex-vessel at Atlantic and Gulf ports.

The seasonal discounts remain the same. On orders placed and accepted by June 30, 1942, for delivery at buyer's plant in substantially equal monthly quantities from June 1, 1942, through March, 1943, a discount of 8 per cent is allowed. Upon acceptance of delivery of entire tonnage on order by March 31, 1943, an additional discount of 4 per cent will be allowed. On orders placed after June 30, 1942, list prices will apply.

### American Potash & Chemical Corporation

Under date of June 6th, the American Potash & Chemical Corporation announced its price schedule for the 1942-1943 fertilizer year. The list price on muriate of potash, 60 per cent minimum  $K_2O$ , remained unchanged at 53½ cents per unit  $K_2O$ , in bulk, ex-vessel principal Continental United States ports.

For shipment f.o.b. Trona, Cal., the price is 8 cents per unit below the net ex-vessel price at Pacific Coast ports. The Company agrees to meet the f.o.b. Carlsbad, N. M., prices of other producers.

For shipment in 200-lb., 12-oz. burlap bags, an additional charge of \$3.50 per ton will be made, so long as the Company's present supplies of bags are available.

A seasonal discount of 8 per cent from the ex-vessel price is allowed on orders placed and accepted by June 30, 1942, for equal monthly shipment from June 1, 1942 to March 31, 1943. An additional 4 per cent will be allowed upon the completion of delivery of the entire tonnage contracted for. On orders accepted on or after July 1, 1942, no discount will be allowed.

**MARTIN AND CLEMENT JOIN WPB**

T. E. Milliman, Chief of the Agricultural Chemicals Unit, WPB, has announced the addition of Dr. William H. Martin and Sheldon L. Clement to the staff of that Unit.

Dr. William H. Martin, Dean and Director, New Jersey Agricultural College and Experiment Station, New Brunswick, New Jersey has accepted an appointment as part-time Consultant to the Agricultural Chemicals Unit of the War Production Board. Dr. Martin will continue his duties as Dean and Director at New Brunswick and will act in Washington as Consultant on Fertilizers, Insecticides and Fungicides.

Sheldon L. Clement, now completing the requirements for the degree of Ph.D. at Harvard University, has accepted an appointment as Business Analyst on fertilizers. Dr. Clement is a farm boy from Mississippi and received his B.S. at Mississippi State in 1924, M.S. at North Carolina State in 1932 and, prior to entering Harvard Business School a year and a half ago, was an economist at North Carolina State, a position which was preceded by experience as County Agricultural Agent and cotton estimating and marketing work in Mississippi and North Carolina.

**APRIL SULPHATE OF AMMONIA**

The production of by-product sulphate of ammonia during April totaled 63,766 tons, a drop of 2.2 per cent from the March figures, according to the report of the U. S. Bureau of Mines. This is accounted for by the 1-day difference in the length of the two months, production being maintained at about 2,000 tons per day. Shipments continue about 10 per cent higher than production, with the result that, on April 30th, the stocks on hand at producers' plants totaled only 8,792 tons, an amount equivalent to only 4 days' production.

	Sulphate of Ammonia Tons	Ammonia Liquor Tons NH <sub>3</sub>
<b>Production:</b>		
April, 1942 .....	63,766	2,840
March, 1942 .....	65,216	2,886
April, 1941 .....	57,916	2,583
January-April, 1942 ....	253,128	11,215
January-April, 1941 ....	245,469	10,333
<b>Shipments:</b>		
April, 1942 .....	70,153	3,146
March, 1942 .....	67,783	3,204
April, 1941 .....	69,126	2,868
<b>Stocks on hand:</b>		
April 30, 1942 .....	8,792	662
March 31, 1942 .....	15,574	745
April 30, 1941 .....	21,374	834
March 31, 1941 .....	32,645	903

**FERTILIZER BRANCH OF OPA TO  
MOVE OFFICES**

George Cushman, Price Executive of the Fertilizers and Insecticides Branch of the Office of Price Administration has notified the fertilizer industry that the offices of that branch of OPA are being transferred from Baltimore to Washington. The new location, beginning Monday, June 8th, will be on the 5th floor of the New Census Building, 2nd and D Streets, S.W., Washington. The telephone number will be Republic 7500.

**WITHAM TO ENTER ARMY**

F. R. Witham, district manager, International Minerals & Chemical Corp., Woburn, Mass., will shortly enter military service as a Captain of Infantry and has been ordered to duty in the First Corps Area in Boston. He has been granted leave of absence by his company, and during his absence T. S. Coughlan will be acting district manager.

**MUNNERLYN NOW V.P. OF BLOCKS  
TERMINAL, INC.**

H. T. Sykes, president of Blocks Terminal, Inc., Tampa, Fla., announces the election of Benjamin Munnerlyn as vice-president and assistant general manager. He will carry on the work of the late Walter C. Bryant.

**Obituary****ARTHUR G. FISHER**

Arthur G. Fisher, general manager of the Diamond Fertilizer Co., Sandusky, Ohio, and secretary and treasurer of the Michigan Fertilizer Co., Lansing, Mich., died on May 28th. Funeral services were held in Sandusky on May 30th. When the Diamond Fertilizer Co. was organized in 1920, Mr. Fisher held the office of General Manager and continued to serve in this capacity during the succeeding years. When the Michigan Fertilizer Co. was started in 1927 as a branch of the Diamond Fertilizer Co., Mr. Fisher was appointed Secretary and Treasurer. His passing will be regretted by his many friends in the industry.



## May Tag Sales

Sales of fertilizer tax tags in the 17 reporting States in May represented 330,000 tons, a decline of 1,700 tons from May, 1941. A moderate increase in the South was more than offset by a decline in the sales in the Midwest.

Aggregate sales in the January-May period were slightly below the corresponding period of 1941, with the decline due to a drop in the Southern States.

The unusual seasonal pattern of tag sales this year is shown by the following table. Sales in 1941 followed the normal seasonal trend. Figures are in thousands of tons.

	Jan.	Feb.	March	April	May
1941.....	456	858	1,487	1,461	332
1942.....	1,273	1,089	1,156	767	330

As was mentioned a month ago, it appears likely that fertilizer consumption in the entire country is larger this year than last. Total tag sales last November and December, which were bought largely for use during the spring season, were 173,000 tons larger than a year earlier. This increase should be considered in arriving at an estimate of this year's tonnage. An increase in consumption is also indicated by other factors.

## A. O. A. C. CANCELS MEETING

Owing to war emergency work, the Executive Committee of the Association of Official Agricultural Chemists has decided that the annual meeting of the Association, scheduled for October 27-29, 1942, will not be held.

## FERTILIZER TAX TAG SALES

State	1942		May		1942		January-May	
	Per Cent of 1941	Tons	1941 Tons	1940 Tons	Per Cent of 1941	Tons	1941 Tons	1940 Tons
Virginia .....	88	25,491	28,848	33,655	106	305,482	289,167	282,046
N. Carolina .....	91	47,720	52,400	51,446	103	996,122	967,275	936,002
S. Carolina .....	74	28,890	39,194	28,596	90	577,234	643,957	618,254
Georgia .....	273	31,440	11,500	39,486	96	707,212	734,872	697,010
Florida .....	127	68,329	53,654	48,456	110	335,272	305,545	262,500
Alabama .....	86	23,950	28,000	45,650	97	537,150	554,950	551,650
Mississippi .....	181	19,925	11,005	40,900	88	269,390	305,042	282,170
Tennessee .....	142	16,460	11,608	25,349	116	137,770	119,271	117,803
Arkansas .....	144	10,150	7,050	7,100	113	125,550	111,250	93,050
Louisiana .....	159	8,500	5,350	3,900	88	128,786	145,580	131,311
Texas .....	72	6,355	8,855	4,025	91	106,088	115,947	101,581
Oklahoma .....	352	415	118	139	84	7,311	8,755	5,432
Total South .....	112	287,625	257,582	328,702	98	4,233,367	4,301,511	4,078,809
Indiana .....	40	16,062	40,233	39,706	118	236,503	200,542	175,082
Illinois .....	41	6,644	16,148	9,525	134	62,273	46,476	36,161
Kentucky .....	115	19,325	16,847	28,147	122	114,571	93,634	87,241
Missouri .....	37	281	752	389	91	32,934	36,283	26,159
Kansas .....	4	5	135	5	23	1,264	5,568	2,658
Total Midwest .....	57	42,317	74,115	77,772	117	447,545	382,503	327,301
Grand Total .....	99	329,942	331,697	406,474	100	4,680,912	4,684,014	4,406,110

# BRADLEY & BAKER

## FERTILIZER MATERIALS - FEEDSTUFFS

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## FERTILIZER MATERIALS MARKET

### NEW YORK

**Sulphate of Ammonia Can be Delivered Through June. Potash Supply Adequate But Some Contracts to be Curtailed. Nitrogenous in Good Demand.**

*Exclusive Correspondence to "The American Fertilizer."*

NEW YORK, June 2, 1942.

Producers of sulphate of ammonia are still behind in deliveries and whereas this material is under allocation as of June 1st, nevertheless, sellers are permitted to continue shipments against unfinished contracts through June. Any shipments for July which sellers may wish to make against undelivered contracts, will be subject to the approval of the Nitrogen Unit of the WPB. It has been requested by the WPB that no contracts for the 1942-43 season be made until a go-ahead is given by them.

#### Potash

This material is continuing to move as some of the larger companies have not as yet completed their old contracts. It is estimated that there will be sufficient potash produced in this country for the new season but one of the larger companies has just made an announcement to the trade that it will be necessary for them to reduce quantities on all their new contracts 10% against last year's commitments. One of the other companies has also advised some buyers that it will be necessary for them to reduce their contract commitments to some extent. However, as a whole, this is not expected to affect the fertilizer industry to any great extent as from all indications, as stated above, there should be sufficient potash.

There is some uncertainty as to the price of potash for the new year but probably the price on contracts will be the same as during the present season, which would mean that producers of potash would have to absorb the increase in freight rates which went into effect some months ago. However, if this supposition is correct, it is then believed that on sales on port basis, sellers will be permitted to add to their price the increased freight charge from port to destination.

#### Nitrate of Soda

The price of this commodity for June has

been released and there has been no increase, but the material continues scarce and is only obtainable on allocation.

#### Nitrogenous Material

Considerable quantities of nitrogenous have been booked for the new season in line with ruling of the OPA, that is, on the basis of sales made during March, but on the basis of a telegram forwarded to all producers by the OPA, it is possible that some action may be taken to reduce contract prices.

#### Fish Scrap

There has been no change in the price of this material.

### BALTIMORE

**Spring Tonnage about Normal. Nitrogenous Expected to Show Better Demand. Potash Prices Expected Soon.**

*Exclusive Correspondence to "The American Fertilizer."*

BALTIMORE, June 2, 1942.

The spring fertilizer season is now over, and from all accounts the tonnage compared favorably with that of last year.

*Ammoniates.*—There is absolutely no interest being shown by fertilizer manufacturers in supplies of organic ammoniates, as the present price, which is in line with the market for feeding purposes, makes the use of organics in fertilizer mixtures almost prohibitive, being in the neighborhood of \$6.20 per unit of nitrogen and 10 cents per unit of B.P.L. Material suitable for feeding is quoted about \$6.60 per unit of nitrogen.

*Nitrogenous Material.*—There will probably be more interest manifested in domestic nitrogenous this year, due to the possible shortage of liquid and mineral ammoniates, but the market is still nominally \$4.00 per unit of nitrogen, f.o.b. basis Baltimore.

# FERTILIZER MATERIALS

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SUPERPHOSPHATE  
+  
NITRATE of SODA  
+  
SULPHURIC ACID  
+  
SULPHATE of  
AMMONIA  
+  
BONE MEALS  
+  
POTASH SALTS  
+  
DRIED BLOOD  
+  
TANKAGES  
+  
COTTONSEED MEAL  
+  
BONE BLACK  
+  
PIGMENT BLACK  
+  
SODIUM  
FLUOSILICATE



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Baltimore, Md.	Havana, Cuba	Presque Isle, Me.
Birmingham, Ala.	Houston, Texas	San Juan, P. R.
Chicago Heights, Ill.	Jacksonville, Fla.	Sandusky, Ohio
Cincinnati, Ohio	Montgomery, Ala.	Wilmington, N. C.
Columbia, S. C.	Nashville, Tenn.	

**Sulphate of Ammonia.**—Price for the new season has not yet been announced, and in some quarters it is anticipated that OPA may permit slightly higher schedule for the coming year, due to the higher cost of production and freight rates. The market is practically bare of stocks, and any deliveries made from now on will be held by manufacturers for next fall and spring seasons.

**Nitrate of Soda.**—While prices have been extended through June, deliveries are still being made under allocation in a very limited way, with the result that none of the manufacturers have been able to stock up. The tonnage used for fertilizer during the present season is considerably less than has been consumed for many years past by the fertilizer trade.

**Fish Meal.**—Further limited sales have been reported at \$66.50 per ton for 60 per cent grade, f.o.b. Chesapeake Bay fish factories, for shipment "if and when made." Fish meal is nominally quoted at \$69.50 in bulk, with \$72.50 to \$73.00 in bags, but practically no demand, which is usual at this season of the year.

**Superphosphate.**—The market remains firm at ceiling prices of \$9.60 per ton for run-of-pile, basis 16 per cent, and \$10.10 for flat 16 per cent grade, both in bulk, f.o.b. sellers' works, Baltimore, but producers are not anxious sellers at this figure.

**Bone Meal.**—The market is inactive and no raw or steamed bone meal is offering at the present time.

**Potash.**—Up to the present time, producers have not announced their new schedule of prices, but they are expected daily. In the meanwhile it would appear that production has about kept up with consumption and there are no stocks being carried over.

**Bags.**—There is no change in the burlap situation and both new and second hand bags

are now only being sold under OPA regulations, with the result that practically all manufacturers are using paper bags to the utmost on account of the saving involved.

## CHARLESTON

**New Prices Expected on Chemical Materials.  
Nitrogenous Producers Temporarily out  
of the Market.**

*Exclusive Correspondence to "The American Fertilizer."*

CHARLESTON, June 2, 1942.

Quotations so far have not been made on future superphosphate nor sulphate of ammonia. Apparently, the prices on potash will be about the same as last season.

**Nitrogenous.**—The producers of this material have temporarily withdrawn from the market after selling limited amounts for June-July shipment.

**Blood.**—Imports from South America have ceased. Most of the blood is going into feed channels. Chicago market is around \$5.60 per unit of ammonia (\$6.81 per unit of N).

**Fish Meal.**—The 60 per cent protein grade is quoted at \$72.50 per ton, f.o.b. Chesapeake plants.

**Cottonseed Meal.**—The market on the 8 per cent grade is as follows: Atlanta, \$38.00; Augusta, \$37.50; Memphis, \$33.50.

## CHICAGO

**Little Fertilizer Organic Material Being Offered.  
Inquiry Steady. Feed Market Quiet but Firm.**

*Exclusive Correspondence to "The American Fertilizer."*

CHICAGO, June 1, 1942.

Organic sellers in well sold-up position are disinclined putting new offerings on the market. In the meantime, inquiry remains fairly steady. Possibly some sellers may prefer delaying

Manufacturers' Sales Agents for **DOMESTIC**  
**Sulphate of Ammonia**  
Ammonia Liquor :: Anhydrous Ammonia

**HYDROCARBON PRODUCTS CO., INC.**  
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further activity until the Convention, or, it may be, anticipated instructions from OPA. The Middle West will be well represented at Hot Springs.

The materials market for feed continues quiet, but firm. Revisions of ceiling prices of the finished feeds are awaited, but, notwithstanding, a steady demand for meat scraps and digester tankage is being enjoyed.

Nominal prices are as follows: High grade ground fertilizer tankage, \$4.00 to \$4.25 (\$4.86 to \$5.16½ per unit N) and 10 cents; standard grades crushed feeding tankage, \$5.50 to \$5.60 (\$6.68½ to \$6.80½ per unit N) and 10 cents; blood, \$5.65 to \$5.75 (\$6.87 to \$6.99 per unit N); dry rendered tankage, \$1.17½ to \$1.22½ per unit of protein, Chicago basis.

### TENNESSEE PHOSPHATE

**Shipments of Phosphate Continue at High Rate. Stocks of Both Raw and Finished Materials Low.**

*Exclusive Correspondence to "The American Fertilizer."*

COLUMBIA, TENN., June 1, 1942.

Summer weather has suddenly descended on the phosphate area and daily temperatures of 95° are common, with several heat prostrations, especially among golfers of the senior class trying to play the eighteen holes the cool weather of the past two months had permitted.

Shipments of phosphate of all grades and into all consuming channels are continuing at an unprecedented rate. In addition, new orders for both immediate and future shipment are rolling in. The harassed producers are trying to take care of the largest backlog of unfilled orders ever known in this field. Those well intentioned but uninformed friends (?) of the farmer who told him last year to put off buying until war made phosphate cheaper are now feeling the effect of the disappointment experienced by so many farmers

who are unable to get their requirements filled. In fact, all evidence points to more government commandeering and other obstacles to the delivery of normal purchases. Stocks of both finished material and green products are low at all plants.

The May meeting of the Middle Tennessee Technical Society was held on May 29th at Arrow Lake near the Mt. Pleasant plant of the Charleston Mining Company. The program was under the arrangement of President Grisson and Messrs. Stringham of the Charleston Mining Co., Dunbar of the Armour Fertilizer Works, and Ruhm of the Ruhm Phosphate & Chemical Co.

Plans were discussed for the application to The American Association for the Advancement of Science to have the Middle Tennessee Technical Society made a chapter of that Association.

### CLASSIFIED ADVERTISEMENTS

#### MACHINERY WANTED

**WANTED**—Used Hough "Payloader," Lessman, or a Clark Tractor. Must be in good condition and cheap. Address "540," care THE AMERICAN FERTILIZER, Philadelphia.

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**UNITED STATES POTASH COMPANY, Incorporated**  
30 ROCKEFELLER PLAZA, NEW YORK



### THE NATIONAL FERTILIZER ASSOCIATION CONVENTION

(Continued from page 5)

#### Golf Events

The Golf Committee has arranged its usual attractive schedule of events for the three-days of the convention. The list of events include medal play handicap, match play against par, kickers handicap, tombstone handicap, match and medal play for "veterans," and a championship contest covering selected scores from play throughout the three days of the meeting. This schedule offers an opportunity for every golfer to come home a winner, whether he be rated as expert, good, medium, duffer or super-duffer. All contestants in the men's events must be connected with companies which are members of the National Fertilizer Association or are directly affiliated with such companies.

The Association has arranged for the use of the Cascades course, with a greens fee of \$2.00 with transportation to and from the hotel.

The Golf Committee for the 1942 Convention is composed of A. L. Walker, Jr., Chairman; A. B. Baker, Walter Crady, E. H. Jones, H. H. Kemp, Western Logan, A. N. Myers, F. J. Woods.

The schedule of events is as follows:

#### Thursday, June 18th

Medal Play Handicap; Match Play vs. Par; Kickers' Medal Handicap; Tombstone Handicap; Low Gross Score; Veterans' Medal Handicap.

#### Friday, June 19th

Medal Play Handicap; Veterans' Match Play vs. Par; Kickers' Medal Handicap; Tombstone Handicap; Low Gross Score.

#### Saturday, June 20th

Medal Play Handicap; Match Play vs. Par; Kickers' Medal Handicap; Tombstone Handicap; Low Gross Score.

#### June 18th, 19th and 20th

Championship (Ringer Handicap).

#### The Donors of Prizes

American Cyanamid Co., New York City.  
American Potash & Chemical Corporation, New York City.

The Barrett Division, Allied Chemical & Dye Corp., New York City.

F. W. Berk & Co., Inc., New York City.  
California Chemical Co., New York City.  
Chilean Nitrate Sales Corporation, New York City.

E. I. du Pont de Nemours & Co. (Ammonia Department), Wilmington, Del.

French Potash & Import Co., New York City.

Morgan Brothers, Richmond, Va.  
International Minerals & Chemical Corp., Chicago, Ill.

The Potash Company of America, New York City.

Southern Phosphate Corporation, New York City.

Texas Gulf Sulphur Company, New York City.

Union Special Machine Company, Chicago, Ill.

U. S. Phosphoric Products Div., Tennessee Corp., Tampa, Fla.

United States Potash Company, New York City.

The National Fertilizer Association.

### ALABAMA PROPOSES CHANGES IN OFFICIAL LIST OF GRADES

On June 9th, the Alabama Board of Agriculture and Industries will meet to consider the list of official fertilizer grades to be adopted for the coming season. George H. Marsh, director of the Division of Agricultural Chemistry has announced the following recommendations which will be submitted to the meeting:

"Formulas recommended to be retained: 6-8-4, 6-8-8, 4-10-4, 4-10-7.

"Formulas that may be retained: 6-11-10, 4-12-4, 3-10-8 (as a tobacco special).

Formulas recommended to be dropped: 3-8-5, 4-8-4, 4-8-5, 3-10-3, 0-12-6, 10-0-10.

"Superphosphate: establish a minimum of 18 per cent  $P_2O_5$ .

"Muriate of potash: establish a minimum of 60 per cent  $K_2O$ .

"Mixed goods: establish a minimum of 18 per cent plant food."

## Stedman FERTILIZER PLANT EQUIPMENT

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## FACTORIES

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Carteret, N. J.	Greensboro, N. C.	Presque Isle, Me.
Cayce, S. C.	Havana, Cuba	Savannah, Ga.
Chambly Canton, Quebec, Can.	Henderson, N. C.	Searsport, Maine
Charleston, S. C.	Montgomery, Ala.	South Amboy, N. J.
Cincinnati, Ohio	Norfolk, Va.	Spartanburg, S. C.
Cleveland, Ohio	No. Weymouth, Mass.	West Haven, Conn.
		Wilmington, N. C.

## The AMERICAN AGRICULTURAL CHEMICAL Co.

50 Church Street, New York City

## SALES OFFICES



Alexandria, Va.	Columbia, S. C.	Laurel, Miss.	Pierce, Fla.
Baltimore, Md.	Detroit, Mich.	Montgomery, Ala.	Port Hope, Ont., Can.
Buffalo, N. Y.	East St. Louis, Ill.	Montreal, Quebec, Can.	St. Paul, Minnesota
Carteret, N. J.	Greensboro, N. C.	New York, N. Y.	Savannah, Ga.
Charleston, S. C.	Havana, Cuba	Norfolk, Va.	Spartanburg, S. C.
Cincinnati, Ohio	Henderson, N. C.	No. Weymouth, Mass.	Wilmington, N. C.
Cleveland, Ohio	Houlton, Me.	Pensacola, Fla.	

MENTION "THE AMERICAN FERTILIZER" WHEN WRITING TO ADVERTISERS.

**FERTILIZER CONSUMPTION IN 1941**

(Continued from page 10)

is probable that this trend will continue in the future.

It seems likely that another new record in fertilizer consumption will be made this year. The food-for-victory program calls for an increase in crop production, which in turn would call for the use of more fertilizer. Economic factors are favorable to increased fertilizer use: farm income is at a high level and price relationships are favorable. Under such circumstances an increased demand for fertilizer would be expected to occur. Supplies have probably been sufficient, in the aggregate, to satisfy a moderate rise in demand.

**PREFERENCE ORDERS ISSUED ON SULPHATE OF AMMONIA, ETC.**

(Continued from page 9)

of ammonia which may or must be made by such producers or distributors during such month. Such authorizations or directions shall be based primarily upon insuring the satisfaction of all defense requirements and, insofar as possible, providing an adequate supply for essential civilian uses. Each producer and distributor of by-product ammonia or sulphate of ammonia, upon being informed by the Director of Industry Operations of the deliveries which such Director has authorized, shall forthwith notify his customers of the extent of such authorization as the same may affect them.

(2) If prior to the first day of any month beginning with July, 1942 any producer or distributor shall not have received from the Director of Industry Operations authorizations or directions covering deliveries of by-product ammonia or sulphate of ammonia to be made by him during such month, such producer or distributor may make deliveries of by-product ammonia or sulphate of ammonia during such month in accordance with, and only in accordance with, the schedules of deliveries for such month filed with War Production Board pursuant to paragraph (c) hereof: *Provided, however*, That at any time during such month the Director of Industry Operations may issue directions with respect to future deliveries to be made in such month.

(3) In the event that any producer or distributor, after receiving notice from the Director of Industry Operations with respect to a delivery of by-product ammonia or sulphate of ammonia which he is authorized to make dur-

ing any month, shall be unable to make such delivery, whether because of receipt of notice of cancellation from his customer or otherwise, such producer or distributor shall forthwith give notice of such fact to the Chemicals Branch of the War Production Board, and shall not in the absence of specific authorization from the Director of Industry Operations resell or otherwise dispose of the by-product ammonia or sulphate of ammonia which he is unable to deliver as aforesaid.

(c) *Scheduling of deliveries.* Each producer or distributor of by-product ammonia or sulphate of ammonia, on or before the 10th day of June, 1942 and the 10th day of each month thereafter, shall file with the Chemicals Branch of the War Production Board, Washington, D. C., Form PD-237 (in triplicate), properly executed, which shall list among other things a schedule of deliveries of by-product ammonia or sulphate of ammonia which such producer or distributor proposes to make in the succeeding month. After such form has been filed with such Chemicals Branch, any changes of circumstances or matters occurring thereafter pertaining to said Form PD-237 shall forthwith be reported to such Chemicals Branch.

(d) *Reports.* Each fertilizer manufacturer shall on or before July 1, 1942 file with the Chemicals Branch of the War Production Board. Form PD-503, properly executed, but the filing of said Form PD-503 pursuant to General Preference Orders M-164 or M-165 shall be a sufficient compliance with the requirement of this sentence. In addition, all persons affected by this Order shall file such other reports as may from time to time be directed by the Director of Industry Operations.

(e) *Miscellaneous provisions—(1) Records.* All persons affected by this order shall keep and preserve for not less than two years accurate and complete records concerning inventories, production and sales.

(2) *Audit and inspection.* All records required to be kept by this order shall, upon request, be submitted to audit and inspection by duly authorized representatives of the War Production Board.

(3) *Notification of customers.* Producers and distributors shall, as soon as practicable, notify each of their regular customers of the requirements of this order, but failure to give such notice shall not excuse any person from the obligation of complying with the terms of this order.

(Continued on page 24)

For over 20 years we have  
served the Fertilizer Industry

### ACID-PROOF CEMENT

Ready Mixed—For Immediate Use  
Packed in 250-lb. Steel Drums  
Dry-Packed in 100-lb. Bags

### CHEMICAL PUTTY

Stops Acid, Gas and Water Leaks

### QUARTZ PEBBLES

Graded to Size

### FILTER GRAVEL, FILTER SAND

### ACID VALVES

SOUTHERN DISTRIBUTORS OF  
**CALGON** (Sodium Hexametaphosphate)

### ACID BRICK, SPIRAL RINGS

### Charlotte Chemical Laboratories

INCORPORATED  
Laboratories, Plant, Office  
CHARLOTTE, N. C.

## Keyed SERVICE!

Fertilizer plants all over the country—large and small—state their needs and we meet them. Large stocks of seasoned materials and ample modern production facilities enable us to make prompt shipments.

## TRIPLE SUPERPHOSPHATE

46 to 48% Available Phosphoric Acid

We also manufacture  
**HIGH-GRADE SUPERPHOSPHATE**

**U. S. Phosphoric Products**

Division  
**TENNESSEE CORPORATION**

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New York Office:  
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Washington, D. C.  
716 Investment Bldg.

Sales Agents:  
Bradley & Baker  
155 East 44th St.  
New York, N. Y.

A Mark of



Reliability

## SPECIFY THREE ELEPHANT



... WHEN BORON IS NEEDED TO CORRECT A DEFICIENCY OF THIS IMPORTANT SECONDARY ELEMENT

Agricultural authorities have shown that a lack of Boron in the soil can result in deficiency diseases which seriously impair the yield and quality of crops.

When Boron deficiencies are found, follow the recommendations of local County Agents or State Experiment Stations.

Information and references available on request.

### AMERICAN POTASH & CHEMICAL CORPORATION

70 PINE STREET, NEW YORK CITY

Pioneer Producers of Muriate of Potash in America

See Page 4

MENTION "THE AMERICAN FERTILIZER" WHEN WRITING TO ADVERTISERS.



(4) *Applicability of Priorities Regulation No. 1.* This order and all transactions affected thereby are subject to the provisions of Priorities Regulation No. 1 (Part 944), as amended from time to time, except to the extent that any provision hereof may be inconsistent therewith, in which case the provisions of this order shall govern.

(5) *Communications to War Production Board.* All reports required to be filed hereunder, and all communications concerning this order, shall, unless otherwise directed, be addressed to: War Production Board, Washington, D. C., Ref.: M-163.

(6) *Violations or false statements.* Any person who wilfully violates any provision of this order or who in connection with this order wilfully conceals a material fact or furnishes false information to any department or agency of the United States, is guilty of a crime, and upon conviction may be punished by fine or imprisonment. In addition, any such person may be prohibited from making or obtaining further deliveries of, or from processing or using material under priority control and may be deprived of priorities assistance. (P.D. Reg. 1, as amended, 6 F.R. 6680; W.P.B. Reg. 1, 7 F.R. 561; E.O. 9024, 7 F.R. 329; E.O. 9040, 7 F.R. 527; E.O. 9125, 7 F.R. 2719; sec. 2 (a), Pub. Law 671, 76th Cong., as amended by Pub. Laws 89 and 507, 77th Cong.)

Issued this 30th day of May, 1942.

J. S. KNOWLSON,  
Director of Industry Operations.

#### FERTILIZER, INSECTICIDE AND FUNGICIDE SHORTAGE HAMPERS EUROPEAN FARMERS

(Continued from page 8)

other root crops." In Southern Italy "lignite deposits are to be exploited for the production of nitrogenous fertilizers." It is reported also that the "shortage of copper for manufacturing insecticides and fungicides has resulted in the preparation of two antiphylloxera products from citric acid."

In Algeria "fertilizers other than phosphates and chlorate of potash are scarce." The supply of insecticides and fungicides is "short and of poor quality."

Reports from Portugal indicate there is a "pronounced shortage of fertilizers" and that the use of limited stocks is being further "curtailed by high prices." As a result of this situation "the per acre yield of most current crops is expected to undergo a sharp reduction."

The insecticide and fungicide situation is "extremely difficult due to the shortage of copper sulphate," and unless about 3,000 tons of copper sulphate are imported before the end of June, the wine producing industry this season will "suffer a disastrous loss."

Reports from Palestine indicate that "chemical fertilizers are not customarily used on cereal crops," but a shortage, particularly of nitrogenous fertilizers, "has had an adverse effect on citrus, vegetables and fodder crops." The supply of potash was "plentiful," and the country hopes to produce locally "its entire needs for phosphates." With respect to insecticides and fungicides the supply was "adequate for 1942 but not for future crops."

#### Danube Basin Countries

Reports from Hungary indicated that "supplies of artificial fertilizers in April were insufficient." The annual consumption of commercial fertilizers in Hungary "is around 100,000 tons, which is considerably in excess of domestic production."

In Bulgaria the Government during February promised farmers that "15,000 tons of artificial fertilizers (unspecified but probably nitrogenous) would be distributed at cost." Apparently, domestic supplies were insufficient since that quantity was "ordered from Germany during April." "Insufficient copper supplies made it necessary to requisition copper household utensils" for the manufacture of copper sulphate for insecticides and fungicides.

Information on the fertilizer situation in Rumania is not available.

#### FARM PRICES AGAIN REACH PARITY

Prices received by farmers in mid-May were at parity level for the first time since January. The general average of farm product prices was 152 per cent of the pre-World War I level. The index of prices paid by farmers, including interest and taxes, was also at 152 per cent of 1910-14. Compared with May, 1941, prices received have advanced 40 points, prices paid 27 points, and the ratio of prices received to prices paid, 14 points. Prices received in May for cotton, cottonseed, livestock, milk, wool, and soybeans were above parity; other major groups were still below parity, in spite of recent advances. The May 15th indexes do not reflect the effect, if any, of the OPA price regulations announced on April 28th. Ceilings have been placed on prices of about three-fourths of the commodities included in the index of prices paid.



• **SOUTHERN PHOSPHATE CORPORATION** •

Miners of FLORIDA LAND PEBBLE

**PHOSPHATE ROCK**

~ all commercial grades!

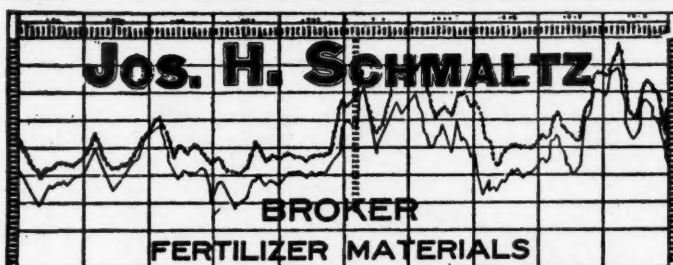
Plants at Sangully, Pauway, Medulla and Ridgewood, Fla.

MAIN OFFICE

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NEW YORK CITY

Tankage  
Blood  
Bone  
All  
Ammoniates



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South  
La Salle  
Street  
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& SON**

*Official Brokers for*  
**MILORGANITE**

*Specializing*  
**CHILEAN NITRATE OF SODA**

**Nitrogenous Materials**

**Blood and Fertilizer Tankage**

**Bone Meals**

**Manganese Sulphate**

**SOUTH AMERICAN DRY  
RENDERED TANKAGE**

•  
**PEOPLES OFFICE BUILDING**  
**Charleston, S. C.**



*Specializing in*

**Sulphate of Ammonia**  
**Low Grade Ammoniates**  
**Superphosphate**  
**Sulphuric Acid**  
**Bags**

*Inquiries and offerings  
invited*

**KEYSER BUILDING**

### CHANGES IN TRUCK TRANSPORTATION REGULATIONS

Several changes in the four general orders for conservation of trucks and tires were announced on May 29th by the Office of Defense Transportation.

In announcing the changes, Joseph B. Eastman, Director of the ODT, emphasized that the determination to achieve the objectives of the orders has not been relaxed. "Such changes as were made," Mr. Eastman said, "have been approved only to give the industries affected additional time to work out their own plans for attaining the objectives of the orders." "It is imperative," Mr. Eastman declared, "that such programs for the conservation and more efficient use of motor transport be instituted immediately for the successful prosecution of the war."

The orders involved in the changes announced are General Orders ODT Nos. 3, 4 and 5 affecting over-the-road deliveries and General Order ODT No. 6 affecting local deliveries.

In the major changes announced, the ODT:

1. Postponed from June 1st to July 1st the effective date of a provision of Orders 3, 4 and 5 prohibiting the operation of trucks in over-the-road deliveries unless loaded to 75 per cent of capacity on the return trip.

2. Relaxed a provision of Order No. 6 with respect to newspapers and set up two alternate plans for conservation of trucks engaged in newspaper delivery services.

3. Extended jurisdiction of the local delivery order to 25 miles beyond the corporate limits of the municipalities.

4. Exempted trucks engaged exclusively in the pick-up or delivery of telegraphic, radio and cable communications and the U. S. mails from the provisions of Order No. 6.

5. Relaxed Order No. 6 with respect to coal trucks and set July 1st as the effective date of the mileage reduction program for such vehicles.

6. Extended to July 1st the effective date of Order No. 6 with respect to trucks primarily equipped for the transportation of bulk liquids.

Postponement of the return load provisions of Orders Nos. 3, 4 and 5 means that until July 1st trucks engaged in over-the-road operations may return empty to the point of origin, if there is no cargo available for transportation on the return trip.

This provision was postponed, the ODT explained, to allow industry more time in which

to work out practicable programs for return loads and mileage reductions in their operations. Truck operators were urged to continue without let-up their preparation for such programs.

Under the coal truck amendment, firms engaged in the delivery of solid fuels must increase the efficiency of their operations so that their ton-mileage in any one month shows a reduction of 25 per cent as compared with their average monthly ton-mileage in 1941.

This change in Order No. 6 is in accordance with the Government's program for stepping up coal deliveries during the summer months in order to prevent overtaxing of transportation facilities during the peak fall and winter months.

Another change in Order No. 6 makes the order binding not only on carriers but on shippers as well.

In the provision setting up the 25-mile limit on local deliveries, the order provides that retail deliveries made directly to the consumer beyond this limit are to be considered as local deliveries.

Order No. 6 has been further clarified to permit a local carrier to make an additional delivery on the same day to the same point if the commodity to be transported requires the use of a vehicle exclusively adapted for the transportation of such commodity.

Under another clarification, Order No. 6 permits one delivery a day from any one point of origin to any one point of destination.

Order No. 5, applying to private carriers, has been changed to permit private carriers to submit plans for joint action with other private carriers in order to attain the objectives of the order.

Mr. Eastman stressed the importance of cooperation among all types of carriers—common, contract and private—in working out programs for conservation and more efficient use of their equipment.

### RECORD FERTILIZER TONNAGE IN OHIO

Fertilizer sales reached an all-time peak in Ohio in 1941, a total of 392,677 tons, an increase of 8 per cent over 1940. The increase was all in the spring. Mixed fertilizers included 90 per cent of the total tonnage, and grades recommended by Ohio State University included 82 per cent of the mixed fertilizer tonnage.

# KNOW - - - - - - TO A CERTAINTY

the number of pounds of raw material for a desired per cent. of plant food in a ton of mixed goods—or find what per cent. of a certain plant food in a ton of fertilizer produced by a specific quantity of raw materials.

No mathematical calculations are necessary. You can find the figures in a few seconds with the aid of

## Adams' Improved Pocket Formula Rule

*A Great Convenience for the Manufacturer of High Analysis Goods*



To make clearer its use, answers to such problems as the following can be quickly obtained:

How much sulphate of ammonia, containing 20 per cent. of nitrogen, would be needed to give  $4\frac{1}{2}$  per cent. nitrogen in the finished product?

Seven hundred and fifty pounds of tankage, containing 8 per cent. phosphoric acid are being used in a mixture. What per cent. of phosphoric acid will this supply in the finished goods?

Should the Adams' Formula Rule become soiled from handling, it may be readily cleaned with a damp cloth.

PRICE

\$1.00

TO BE SENT  
WITH ORDER.

Special quotations  
on twelve or  
more.

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*Sole Distributors*

1330 Vine Street :: PHILADELPHIA

MENTION "THE AMERICAN FERTILIZER" WHEN WRITING TO ADVERTISERS.

# BUYERS' GUIDE

A CLASSIFIED INDEX TO ALL THE ADVERTISERS IN "THE AMERICAN FERTILIZER"



This list contains representative concerns in the Commercial Fertilizer Industry, including fertilizer manufacturers, machinery and equipment manufacturers, dealers in and manufacturers of commercial fertilizer materials and supplies, brokers, chemists, etc. For Alphabetical List of Advertisers, see page 33.



## ACID BRICK

Charlotte Chem. Laboratories, Inc., Charlotte, N. C.  
Chemical Construction Corp., New York City.

## ACID EGGS

Chemical Construction Corp., New York City.

## ACIDULATING UNITS

Chemical Construction Corp., New York City.  
Sackett & Sons Co., The A. J., Baltimore, Md.

## AMMO-PHOS

American Cyanamid Co., New York City.

## AMMONIA—Anhydrous

Barrett Division, The, Allied Chemical & Dye Corp.,  
New York City.  
DuPont de Nemours & Co., E. I., Wilmington, Del.  
Hydrocarbon Products Co., New York City.

## AMMONIA LIQUOR

Barrett Division, The, Allied Chemical & Dye Corp.,  
New York City.  
DuPont de Nemours & Co., E. I., Wilmington, Del.  
Hydrocarbon Products Co., New York City.

## AMMONIA OXIDATION UNITS

Chemical Construction Corp., New York City.

## AMMONIATING EQUIPMENT

Sackett & Sons Co., The A. J., Baltimore, Md.

## AMMONIUM NITRATE SOLUTIONS

Barrett Division, The, Allied Chemical & Dye Corp.,  
New York City.

## AUTOMATIC ELEVATOR TAKEUPS

Sackett & Sons Co., The A. J., Baltimore, Md.

## RABBIT

Sackett & Sons Co., The A. J., Baltimore, Md.

## BAGS AND BAGGING—Manufacturers

Bagpak, Inc., New York City.  
Bemis Bro. Bag Co., St. Louis, Mo.

## BAGS—Cotton

Bemis Bro. Bag Co., St. Louis, Mo.

## BAGS—Paper

Bagpak, Inc., New York City.  
Bemis Bro. Bag Co., St. Louis, Mo.

## BAGS (Waterproof)—Manufacturers

Bemis Bro. Bag Co., St. Louis, Mo.

## BAGS—Dealers and Brokers

Ashcraft-Wilkinson Co., Atlanta, Ga.  
Baker & Bro., H. J., New York City.  
Huber & Company, New York City.  
Jett, Joseph C., Norfolk, Va.  
McIver & Son, Alex. M., Charleston, S. C.  
Wellmann, William E., Baltimore, Md.

## BAGGING MACHINES—For Filling Sacks

Atlanta Utility Works, East Point, Ga.  
Bagpak, Inc., New York City.  
Sackett & Sons Co., The A. J., Baltimore, Md.

## BAG FILERS

Link-Belt Company, Philadelphia, Chicago.

## BEARINGS

Link-Belt Company, Philadelphia, Chicago.  
Sackett & Sons Co., The A. J., Baltimore, Md.

## BELT LACING

Sackett & Sons Co., The A. J., Baltimore, Md.

## BELTING—Chain

Atlanta Utility Works, East Point, Ga.  
Link-Belt Company, Philadelphia, Chicago.  
Sackett & Sons Co., The A. J., Baltimore, Md.  
Stedman's Foundry and Mach. Works, Aurora, Ind.

## BELTING—Leather, Rubber, Canvas

Sackett & Sons Co., The A. J., Baltimore, Md.

## BOILERS—Steam

Atlanta Utility Works, East Point, Ga.

## BONE BLACK

American Agricultural Chemical Co., New York City.  
Armour Fertilizer Works, Atlanta, Ga.  
Huber & Company, New York City.

## BONE PRODUCTS

American Agricultural Chemical Co., New York City.  
Armour Fertilizer Works, Atlanta, Ga.  
Ashcraft-Wilkinson Co., Atlanta, Ga.  
Baker & Bro., H. J., New York City.  
Bradley & Baker, New York City.  
Huber & Company, New York City.  
Jett, Joseph C., Norfolk, Va.  
McIver & Son, Alex. M., Charleston, S. C.  
Schmaltz, Jos. H., Chicago, Ill.  
Wellmann, William E., Baltimore, Md.

## BORAX AND BORIC ACID

American Potash and Chem. Corp., New York City.  
Pacific Coast Borax Co., New York City.

## BROKERS

Ashcraft-Wilkinson Co., Atlanta, Ga.  
Baker & Bro., H. J., New York City.  
Bradley & Baker, New York City.  
Dickerson Co., The, Philadelphia, Pa.  
Huber & Company, New York City.  
Jett, Joseph C., Norfolk, Va.  
Keim, Samuel L., Philadelphia, Pa.  
McIver & Son, Alex. M., Charleston, S. C.  
Schmaltz, Jos. H., Chicago, Ill.  
Wellmann, William E., Baltimore, Md.

## BUCKETS—Elevator

Link-Belt Company, Philadelphia, Chicago.  
Sackett & Sons Co., The A. J., Baltimore, Md.  
Stedman's Foundry and Mach. Works, Aurora, Ind.

A Classified Index to Advertisers in  
"The American Fertilizer"

## BUYERS' GUIDE

For an Alphabetical List of all the  
Advertisers, see page 33

**BUCKETS**—For Holsts, Cranes, etc., Clam Shell, Orange Peel, Drag line, Special; Electrically Operated and Multi Power

Hayward Company, The, New York City.  
Link-Belt Company, Philadelphia, Chicago.

**BURNERS—Sulphur**

Chemical Construction Corp., New York City.

**BURNERS—Oil**

Monarch Mfg. Works, Inc., Philadelphia, Pa.  
Sackett & Sons Co., The A. J., Baltimore, Md.

**CABLEWAYS**

Hayward Company, The, New York City.

**CARBONATE OF AMMONIA**

American Agricultural Chemical Co., New York City.  
DuPont de Nemours & Co., E. I., Wilmington, Del.

**CARS—For Moving Materials**

Link-Belt Company, Philadelphia, Chicago.  
Sackett & Sons Co., The A. J., Baltimore, Md.  
Stedman's Foundry and Mach. Works, Aurora, Ind.

**CARTS—Fertilizer, Standard and Roller Bearing**

Atlanta Utility Works, East Point, Ga.  
Sackett & Sons Co., The A. J., Baltimore, Md.

**CASTINGS—Acid Resisting**

Charlotte Chem. Laboratories, Inc., Charlotte, N. C.  
Duriron Co., Inc., The, Dayton, Ohio.

**CASTINGS—Iron and Steel**

Link-Belt Company, Philadelphia, Chicago.  
Sackett & Sons Co., The A. J., Baltimore, Md.  
Stedman's Foundry and Mach. Works, Aurora, Ind.

**CEMENT—Acid-Proof**

Charlotte Chem. Laboratories, Inc., Charlotte, N. C.  
Chemical Construction Corp., New York City.

**CHAIN DRIVES—Silent**

Link-Belt Company, Philadelphia, Chicago.  
Sackett & Sons Co., The A. J., Baltimore, Md.  
Stedman's Foundry and Mach. Works, Aurora, Ind.

**CHAINS AND SPROCKETS**

Link-Belt Company, Philadelphia, Chicago.  
Sackett & Sons Co., The A. J., Baltimore, Md.  
Stedman's Foundry and Mach. Works, Aurora, Ind.

**CHAMBERS—Acid**

Chemical Construction Corp., New York City.  
Fairlie, Andrew M., Atlanta, Ga.

**CHEMICAL APPARATUS**

Charlotte Chem. Laboratories, Inc., Charlotte, N. C.  
Duriron Co., Inc., The, Dayton, Ohio.  
Monarch Mfg. Works, Inc., Philadelphia, Pa.

**CHEMICALS**

American Agricultural Chemical Co., New York City.  
American Cyanamid Co., New York City.  
Armour Fertilizer Works, Atlanta, Ga.  
Ashcraft-Wilkinson Co., Atlanta, Ga.  
Baker & Bro., H. J., New York City.  
Barrett Division, The, Allied Chemical & Dye Corp., New York City.  
Bradley & Baker, New York City.  
DuPont de Nemours & Co., E. I., Wilmington, Del.  
Huber & Company, New York City.

**CHEMICALS—Continued**

International Minerals & Chemical Corporation, Chicago, Ill.  
McIver & Son, Alex. M., Charleston, S. C.  
Phosphate Mining Co., The, New York City.  
Wellmann, William E., Baltimore, Md.

**CHEMICAL PLANT CONSTRUCTION**

Atlanta Utility Works, East Point, Ga.  
Charlotte Chem. Laboratories, Inc., Charlotte, N. C.  
Chemical Construction Corp., New York City.  
Fairlie, Andrew M., Atlanta, Ga.  
Sackett & Sons Co., The A. J., Baltimore, Md.  
Stedman's Foundry and Mach. Works, Aurora, Ind.

**CHEMISTS AND ASSAYERS**

Gascoyne & Co., Baltimore, Md.  
Shuey & Company, Inc., Savannah, Ga.  
Stillwell & Gladding, New York City.  
Wiley & Company, Baltimore, Md.

**CLUTCHES**

Link-Belt Company, Philadelphia, Chicago.  
Sackett & Sons Co., The A. J., Baltimore, Md.  
Stedman's Foundry and Mach. Works, Aurora, Ind.

**CONCENTRATORS—Sulphuric Acid**

Chemical Construction Corp., New York City.  
Fairlie, Andrew M., Atlanta, Ga.

**CONDITIONERS AND FILLERS**

American Limestone Co., Knoxville, Tenn.  
Dickerson Co., The, Philadelphia, Pa.  
Phosphate Mining Co., The, New York City.

**CONTACT ACID PLANTS**

Chemical Construction Corp., New York City.

**COPPER SULPHATE**

Tennessee Corporation, Atlanta, Ga.

**COTTONSEED PRODUCTS**

Ashcraft-Wilkinson Co., Atlanta, Ga.  
Baker & Bro., H. J., New York City.  
Bradley & Baker, New York City.  
Huber & Company, New York City.  
Jett, Joseph C., Norfolk, Va.  
McIver & Son, Alex. M., Charleston, S. C.  
Schmaltz, Jos. H., Chicago, Ill.  
Wellmann, William E., Baltimore, Md.

**CRANES AND DERRICKS**

Hayward Company, The, New York City.  
Link-Belt Company, Philadelphia, Chicago.  
Sackett & Sons Co., The A. J., Baltimore, Md.

**CYANAMID**

American Agricultural Chemical Co., New York City.  
American Cyanamid Co., New York City.  
Ashcraft-Wilkinson Co., Atlanta, Ga.  
Baker & Bro., H. J., New York City.  
Bradley & Baker, New York City.  
Jett, Joseph C., Norfolk, Va.  
Wellmann, William E., Baltimore, Md.

**DENS—Superphosphate**

Chemical Construction Corp., New York City.  
Stedman's Foundry and Mach. Works, Aurora, Ind.

**Andrew M. Fairlie**

CHEMICAL ENGINEER

22 Marietta Street  
Building

ATLANTA, GA.

CABLE ADDRESS: "SULFACID ATLANTA"

**S**ULPHURIC Acid Plants . . . Design, Construction,  
Equipment . . . Operation . . . Mills-Packard Water-  
Cooled Acid Chambers, Gaillard Acid-Cooled Chambers,  
Gaillard Acid Dispersers, Contact Process Sulphuric  
Acid Plants.



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Advertisers, see page 33

### DISINTEGRATORS

Atlanta Utility Works, East Point, Ga.  
Sackett & Sons Co., The A. J., Baltimore, Md.  
Stedman's Foundry and Mach. Works, Aurora, Ind.

### DRYERS—Direct Heat

Sackett & Sons Co., The A. J., Baltimore, Md.

### DRIVES—Electric

Link-Belt Company, Philadelphia, Chicago.

### DUMP CARS

Link-Belt Company, Philadelphia, Chicago.  
Sackett & Sons Co., The A. J., Baltimore, Md.  
Stedman's Foundry and Mach. Works, Aurora, Ind.

### DUST COLLECTING SYSTEMS

Sackett & Sons Co., The A. J., Baltimore, Md.

### ELECTRIC MOTORS AND APPLIANCES

Atlanta Utility Works, East Point, Ga.  
Sackett & Sons Co., The A. J., Baltimore, Md.

### ELEVATORS

Atlanta Utility Works, East Point, Ga.  
Link-Belt Company, Philadelphia, Chicago.  
Sackett & Sons Co., The A. J., Baltimore, Md.  
Stedman's Foundry and Mach. Works, Aurora, Ind.

### ELEVATORS AND CONVEYORS—Portable

Link-Belt Company, Philadelphia, Chicago.  
Sackett & Sons Co., The A. J., Baltimore, Md.

### ENGINEERS—Chemical and Industrial

Chemical Construction Corp., New York City.  
Fairlie, Andrew M., Atlanta, Ga.  
Link-Belt Company, Philadelphia, Chicago.  
Sackett & Sons Co., The A. J., Baltimore, Md.  
Stedman's Foundry and Mach. Works, Aurora, Ind.

### ENGINES—Steam

Atlanta Utility Works, East Point, Ga.  
Sackett & Sons Co., The A. J., Baltimore, Md.

### EXCAVATORS AND DREDGES—Drag Line and Cableway

Hayward Company, The, New York City.  
Link-Belt Company, Philadelphia, Chicago.  
Link Belt Speeder Corp., Chicago, Ill., and Cedar Rapids, Iowa.

### FERTILIZER MANUFACTURERS

American Agricultural Chemical Co., New York City.  
American Cyanamid Co., New York City.  
Armour Fertilizer Works, Atlanta, Ga.  
Farmers Fertilizer Co., Columbus, Ohio  
International Minerals & Chemical Corporation,  
Chicago, Ill.  
Phosphate Mining Co., The, New York City.  
U. S. Phosphoric Products Division, Tennessee Corp.,  
Tampa, Fla.

### FISH SCRAP AND OIL

Ashcraft-Wilkinson Co., Atlanta, Ga.  
Baker & Bro., H. J., New York City.  
Bradley & Baker, New York City.  
Huber & Company, New York City.  
Jett, Joseph C., Norfolk, Va.  
McIver & Son, Alex. M., Charleston, S. C.  
Wellmann, William E., Baltimore, Md.

### FOUNDERS AND MACHINISTS

Atlanta Utility Works, East Point, Ga.  
Charlotte Chem. Laboratories, Inc., Charlotte, N. C.  
Link-Belt Company, Philadelphia, Chicago.  
Sackett & Sons Co., The A. J., Baltimore, Md.  
Stedman's Foundry and Mach. Works, Aurora, Ind.

### GARBAGE TANKAGE

Wellmann, William E., Baltimore, Md.

### GEARS—Machine Moulded and Cut

Link-Belt Company, Philadelphia, Chicago.  
Sackett & Sons Co., The A. J., Baltimore, Md.  
Stedman's Foundry and Mach. Works, Aurora, Ind.

### GEARS—Silent

Link-Belt Company, Philadelphia, Chicago.  
Sackett & Sons Co., The A. J., Baltimore, Md.

### GELATINE AND GLUE

American Agricultural Chemical Co., New York City.

### GUANO

Baker & Bro., H. J., New York City.

### HOISTS—Electric, Floor and Cage Operated, Portable

Hayward Company, The, New York City.

### HOPPERS

Atlanta Utility Works, East Point, Ga.  
Link-Belt Company, Philadelphia, Chicago.  
Sackett & Sons Co., The A. J., Baltimore, Md.  
Stedman's Foundry and Mach. Works, Aurora, Ind.

### IMPORTERS, EXPORTERS

Armour Fertilizer Works, Atlanta, Ga.  
Ashcraft-Wilkinson Co., Atlanta, Ga.  
Baker & Bro., H. J., New York City.  
Bradley & Baker, New York City.  
Wellmann, William E., Baltimore, Md.

### IRON SULPHATE

Tennessee Corporation, Atlanta, Ga.

### INSECTICIDES

American Agricultural Chemical Co., New York City

### LACING—Belt

Sackett & Sons Co., The A. J., Baltimore, Md.

### LIMESTONE

American Agricultural Chemical Co., New York City.  
American Limestone Co., Knoxville, Tenn.  
Ashcraft-Wilkinson Co., Atlanta, Ga.  
Baker & Bro., H. J., New York City.  
Bradley & Baker, New York City.  
McIver & Son, Alex. M., Charleston, S. C.  
Wellmann, William E., Baltimore, Md.

### LOADERS—Car and Wagon, for Fertilizers

Link-Belt Company, Philadelphia, Chicago.  
Sackett & Sons Co., The A. J., Baltimore, Md.

### MACHINERY—Acid Making

Atlanta Utility Works, East Point, Ga.  
Charlotte Chem. Laboratories, Inc., Charlotte, N. C.  
Chemical Construction Corp., New York City.  
Duriron Co., Inc., The, Dayton, Ohio.  
Fairlie, Andrew M., Atlanta, Ga.  
Monarch Mfg. Works, Inc., Philadelphia, Pa.  
Sackett & Sons Co., The A. J., Baltimore, Md.  
Stedman's Foundry and Mach. Works, Aurora, Ind.

### MACHINERY—Coal and Ash Handling

Hayward Company, The, New York City.  
Link-Belt Company, Philadelphia, Chicago.  
Sackett & Sons Co., The A. J., Baltimore, Md.

### MACHINERY—Elevating and Conveying

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Hayward Company, The, New York City.  
Link-Belt Company, Philadelphia, Chicago.  
Sackett & Sons Co., The A. J., Baltimore, Md.  
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### MACHINERY—Grinding and Pulverizing

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Sackett & Sons Co., The A. J., Baltimore, Md.  
Stedman's Foundry and Mach. Works, Aurora, Ind.

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### MACHINERY—Pumping

Atlanta Utility Works, East Point, Ga.  
Duriron Co., Inc., The, Dayton, Ohio.

### MACHINERY—Tankage and Fish Scrap

Atlanta Utility Works, East Point, Ga.  
Sackett & Sons Co., The A. J., Baltimore, Md.  
Stedman's Foundry and Mach. Works, Aurora, Ind.

### MAGNETS

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Sackett & Sons Co., The A. J., Baltimore, Md.  
Stedman's Foundry and Mach. Works, Aurora, Ind.

### MANGANESE SULPHATE

McIver & Son, Alex. M., Charleston, S. C.  
Tennessee Corporation, Atlanta, Ga.

### MIXERS

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Sackett & Sons Co., The A. J., Baltimore, Md.  
Stedman's Foundry and Mach. Works, Aurora, Ind.

### NITRATE OF SODA

American Agricultural Chemical Co., New York City.  
Armour Fertilizer Works, Atlanta, Ga.  
Ashcraft-Wilkinson Co., Atlanta, Ga.  
Baker & Bro., H. J., New York City.  
Barrett Division, The, Allied Chemical & Dye Corp.,  
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Bradley & Baker, New York City.  
Chilean Nitrate Sales Corp., New York City.  
Huber & Company, New York City.  
International Minerals & Chemical Corporation,  
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McIver & Son, Alex. M., Charleston, S. C.  
Schmaltz, Jos. H., Chicago, Ill.  
Wellmann, William E., Baltimore, Md.

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Ashcraft-Wilkinson Co., Atlanta, Ga.  
Baker & Bro., H. J., New York City.  
Bradley & Baker, New York City.  
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Smith-Rowland Co., Norfolk, Va.  
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### NOZZLES—Spray

Monarch Mfg. Works, Philadelphia, Pa.

### PACKING—For Acid Towers

Charlotte Chem. Laboratories, Inc., Charlotte, N. C.  
Chemical Construction Corp., New York City.

### PANS AND POTS

Stedman's Foundry and Mach. Works, Aurora, Ind.

### PHOSPHATE MINING PLANTS

Chemical Construction Corp., New York City.

### PHOSPHATE ROCK

American Agricultural Chemical Co., New York City.  
American Cyanamid Co., New York City.  
Armour Fertilizer Works, Atlanta, Ga.  
Ashcraft-Wilkinson Co., Atlanta, Ga.  
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Ruhm, H. D., Mount Pleasant, Tenn.  
Schmaltz, Jos. H., Chicago, Ill.  
Southern Phosphate Corp., Baltimore, Md.  
Wellmann, William E., Baltimore, Md.

### PIPE—Acid Resisting

Duriron Co., Inc., The, Dayton, Ohio.

### PIPES—Chemical Stoneware

Chemical Construction Corp., New York City.

### PIPES—Wooden

Stedman's Foundry and Mach. Works, Aurora, Ind.

### PLANT CONSTRUCTION—Fertilizer and Acid

Chemical Construction Corp., New York City.  
Fairlie, Andrew M., Atlanta, Ga.  
Sackett & Sons Co., The A. J., Baltimore, Md.

### POTASH SALTS—Dealers and Brokers

American Agricultural Chemical Co., New York City.  
Armour Fertilizer Works, Atlanta, Ga.  
Ashcraft-Wilkinson Co., Atlanta, Ga.  
Baker & Bro., H. J., New York City.  
Bradley & Baker, New York City.  
Huber & Company, New York City.  
International Minerals & Chemical Corporation,  
Chicago, Ill.  
Jett, Joseph C., Norfolk, Va.  
Schmaltz, Jos. H., Chicago, Ill.  
Wellmann, William E., Baltimore, Md.

### POTASH SALTS—Manufacturers

American Potash and Chem. Corp., New York City.  
Potash Co. of America, New York City.  
International Minerals & Chemical Corp., Chicago, Ill.  
United States Potash Co., New York City.

### FULLEYS AND HANGERS

Atlanta Utility Works, East Point, Ga.  
Sackett & Sons Co., The A. J., Baltimore, Md.  
Stedman's Foundry and Mach. Works, Aurora, Ind.

### PUMPS—Acid-Resisting

Charlotte Chem. Laboratories, Inc., Charlotte, N. C.  
Duriron Co., Inc., The, Dayton, Ohio.  
Monarch Mfg. Works, Inc., Philadelphia, Pa.

### PYRITES—Brokers

Ashcraft-Wilkinson Co., Atlanta, Ga.  
Baker & Bro., New York City.  
Wellmann, William E., Baltimore, Md.

### QUARTZ

Charlotte Chem. Laboratories, Inc., Charlotte, N. C.

### RINGS—Sulphuric Acid Tower

Chemical Construction Corp., New York City.

### ROUGH AMMONIATES

Bradley & Baker, New York City.  
McIver & Son, Alex. M., Charleston, S. C.  
Schmaltz, Jos. H., Chicago, Ill.  
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### SCRAPERS—Drag

Hayward Company, The, New York City.

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### SEPARATORS—Air

Sackett & Sons Co., The A. J., Baltimore, Md.

### SEPARATORS—Including Vibrating

Sackett & Sons Co., The A. J., Baltimore, Md.

### SEPARATORS—Magnetic

Sackett & Sons Co., The A. J., Baltimore, Md.  
Stedman's Foundry and Mach. Works, Aurora, Ind.

### SHAFTING

Atlanta Utility Works, East Point, Ga.  
Link-Belt Company, Philadelphia, Chicago.  
Sackett & Sons Co., The A. J., Baltimore, Md.  
Stedman's Foundry and Mach. Works, Aurora, Ind.

### SHOVELS—Power

Link-Belt Company, Philadelphia, Chicago.  
Link-Belt Speeder Corp., Chicago, Ill., and Cedar  
Rapids, Iowa.  
Sackett & Sons Co., The A. J., Baltimore, Md.

### SPRAYS—Acid Chambers

Monarch Mfg. Works, Inc., Philadelphia, Pa.

### SPROCKET WHEELS (See Chains and Sprockets)

### STACKS

Sackett & Sons Co., The A. J., Baltimore, Md.

### SULPHATE OF AMMONIA

American Agricultural Chemical Co., New York City.  
Armour Fertilizer Works, Atlanta, Ga.  
Ashcraft-Wilkinson Co., Atlanta, Ga.  
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Barrett Division, The, Allied Chemical & Dye Corp.,  
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### SULPHUR

Ashcraft-Wilkinson Co., Atlanta, Ga.  
Baker & Bro., H. J., New York City.  
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Texas Gulf Sulphur Co., New York City.

### SULPHURIC ACID

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Armour Fertilizer Works, Atlanta, Ga.  
Ashcraft-Wilkinson Co., Atlanta, Ga.  
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McIver & Son, Alex. M., Charleston, S. C.

### SULPHURIC ACID—Continued

U. S. Phosphoric Products Division, Tennessee Corp.,  
Tampa, Fla.  
Wellmann, William E., Baltimore, Md.

### SUPERPHOSPHATE

American Agricultural Chemical Co., New York City.  
Armour Fertilizer Works, Atlanta, Ga.  
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McIver & Son, Alex. M., Charleston, S. C.  
Schmaltz, Jos. H., Chicago, Ill.  
U. S. Phosphoric Products Division, Tennessee Corp.,  
Tampa, Fla.  
Wellmann, William E., Baltimore, Md.

### SUPERPHOSPHATE—Concentrated

Armour Fertilizer Works, Atlanta, Ga.  
International Minerals & Chemical Corporation,  
Chicago, Ill.  
Phosphate Mining Co., The, New York City.  
U. S. Phosphoric Products Division, Tennessee Corp.,  
Tampa, Fla.

### SYPHONS—For Acid

Monarch Mfg. Works, Inc., Philadelphia, Pa.

### TALLOW AND GREASE

American Agricultural Chemical Co., New York City.

### TANKAGE

American Agricultural Chemical Co., New York City.  
Armour Fertilizer Works, Atlanta, Ga.  
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Smith-Rowland, Norfolk, Va.  
Wellmann, William E., Baltimore, Md.

### TANKAGE—Garbage

Huber & Company, New York City.

### TANKS

Sackett & Sons Co., The A. J., Baltimore, Md.

### TILE—Acid-Proof

Charlotte Chem. Laboratories, Inc., Charlotte, N. C.

### TOWERS—Acid and Absorption

Chemical Construction Corp., New York City.  
Fairlie, Andrew M., Atlanta, Ga.

### UNLOADERS—Car and Boat

Hayward Company, The, New York City.  
Sackett & Sons Co., The A. J., Baltimore, Md.

### UREA

DuPont de Nemours & Co., E. I., Wilmington, Del.

### UREA-AMMONIA LIQUEUR

DuPont de Nemours & Co., E. I., Wilmington, Del.

### VALVES—Acid-Resisting

Atlanta Utility Works, East Point, Ga.  
Charlotte Chem. Laboratories, Inc., Charlotte, N. C.  
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